TRANSLOCATION OF RHESUS MACAQUES FROM AIRFORCE STATION, GURGAON (HARYANA) TO THE NATURAL FOREST OF FIROZPUR- JHIRKA, HARYANA, INDIA[1]

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(*With two text-figures*)

Key words: Translocation, *Macaca mulatta*, monkey menace

The occurrence of monkeys in human habitations has created enormous problems in recent years in different parts of India. During the present study, a group of troublesome monkeys in the vicinity of Gurgaon Air Force Station (GAFS) were translocated on an experimental basis. Of the 28 monkeys counted during June 1998, in the GAFS area, 22 were caught and translocated successfully to the natural forest of Firozpur-Jhirka (Aravali Range, Haryana), where adequate food and shelter was available. The release area was revisited in March 2000 to ascertain the status of the released monkeys. It was heartening to see them well settled in their new habitat.

INTRODUCTION

Approximately 48.5% of the 0.3 million rhesus macaques of north India are living in human habitations (Southwick and Siddiqi 1994), resulting in conflict and competition for space and food between man and monkey. The troops invade settlements, often damaging human property. The harassed humans resort to hitting or shooting the monkeys. Consequently, monkey groups become more aggressive, and increasing number of monkey bites are reported.

Monkeys are an integral part of India's rich biodiversity. It is, therefore, our foremost duty to minimise the man-monkey conflict. Of all the non-destructive control measures, translocation is one of the most successful methods of rehabilitating a troublesome population to an area where it can resettle (Southwick *et al.* 1984, Forthman 1986, Strum and Southwick 1986, Else 1991, Imam 1991, Malik & Johnson 1991 & 1994, Siddiqi & Southwick 1993, and Imam & Malik 1997). Recently, Yahya and Imam (2001) translocated 18 monkeys from the Aligarh Muslim University campus in Aligarh. However, the world's largest translocation of 600 monkeys, to the forest patches of Mathura district, from Vrindaban (Mathura-UP, India) was carried out during 1997 (Imam *et al.* in press). These successful translocation programs motivated us to adopt the same technique to solve the GAFS monkey problem.

TRAPPING AND RELEASING SITES

Gurgaon Air Force Station is situated 28 km south of New Delhi in Gurgaon, Haryana (28° 37' N, 77° 04' E). The campus includes a hospital, kitchen and mess, residences, offices, and plantations of some common trees such as *Eucalyptus* spp., *Acacia catechu*, *Albizzia lebbek*, *Azadirachta indica*, *Zizyphus mauritiana*, *Dalbergia sissoo*, *Ficus bengalensis*, *F. religiosa*, *Prosopis juliflora* and *Tamarindus indica*.

The release site, Firozpur-Jhirka, (27° 47' N, 76° 59' E), near the Jhir Mandir, has a pond and perennial *nullah* with a fairly good forest patch on either side of the *nullah*. *Acacia leucophloea*, *A. catechu*, *Anogeissus pendula*, *Ailanthus excelsa*, *Azadirachta indica*, *Zizyphus mauritiana*, *Balanites aegyptica*, *Butea monosperma*, *Casearia elliptica*, *Cassia fistula*, *Emblica officinalis*,

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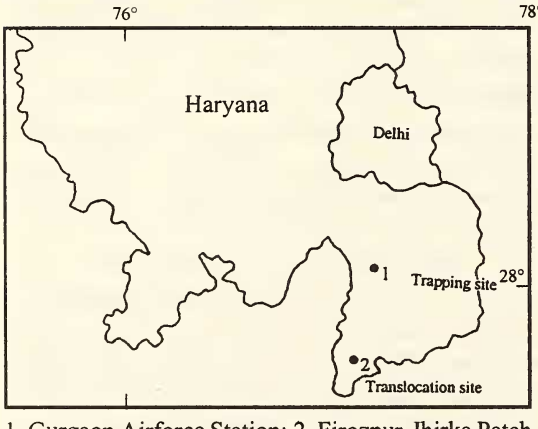
Dalbergia sissoo, *Ficus tomentosa*, *F. bengalensis*, *F. religiosa*, *Lannea coromandelica*, *Sterculia urens*, *Terminalia tomentosa*, *Prosopis juliflora*, *Tamarindus indica* and *Tectona grandis* were the common trees at the site.

Methods

A preliminary survey was conducted from May 23-30, 1998 to estimate the population, activity sites and night shelters of the monkeys inside the GAFS premises. The monkeys were lured with food to facilitate counting.

The forest area of Firozpur-Jhirka (situated about 100 km south of Delhi in the Aravali range, Haryana) was surveyed to locate a suitable release site (Fig. 1). Availability of food, water, shelter, cultivation and proximity to human habitation were considered while selecting the sites for translocation. The monkeys were then trapped with the help of a portable iron trapping cage, of 2 m x 2 m x 2 m size with a heavy sliding door (Fig. 2), installed at night. The door was tied with a pulley, operated by a man hidden in a drum 20 m away, with an eye-hole to help him observe the monkeys coming inside the cage. The monkeys were trapped using banana and roasted gram as bait all day long, between June 3 and 6, 1998, at alternate sites. To avoid group fission, we tried trapping an entire group from one site on the same day. The trapped monkeys were then transferred into a holding cage 0.5 m x 0.5 m x 0.5 m in size, and finally into a releasing cage of 5 m x 2.5 m x 2.5 m, which were transported by a mini truck. All the cages were provided with food and water. The monkeys were released near trees at the translocation site early in the morning between 0200 and 0300 hrs.



1. Gurgaon Airforce Station; 2. Firozpur-Jhirka Patch

Fig. 1: Trapping and translocation sites of rhesus macaque *Macaca mulatta* in Haryana

Results and Discussion

Out of 28 rhesus macaques, 22 were trapped. The first trapping was undertaken near the GAFS mess kitchen, where 3 adult males, 4 adult females and 5 immatures were trapped. The next day, 3 adult males, 4 adult females and 3 immatures were trapped from the tube-well building early in the morning. We were unable to trap any monkeys that evening, as they had become wary of us and left the area. The trapped monkeys were transported the same night and released near large, shady trees at the chosen site to avoid stress and mortality, which the hot summer days might have caused. Sufficient gram, vegetables, banana and other fruits were placed at the release sites, as an immediate supply of food. This practice was continued for a week to acclimatise them to the new area.

To ascertain if the monkey population had settled in the Firozpur-Jhirka forest, the area was revisited on March 17, 2000. Two groups of 12 and 8 were seen near the temple. Since this area had no resident rhesus macaques groups earlier, and no other monkeys had been released there earlier, it was assumed that the groups observed were the ones released in June 1998. The temple priest and local people also confirmed this assumption. The first author visited GAFS the next day, and found that except for 4 new infants no other monkeys had joined the population of the area.

The monkey menace seems to have started with the forced restriction of large populations

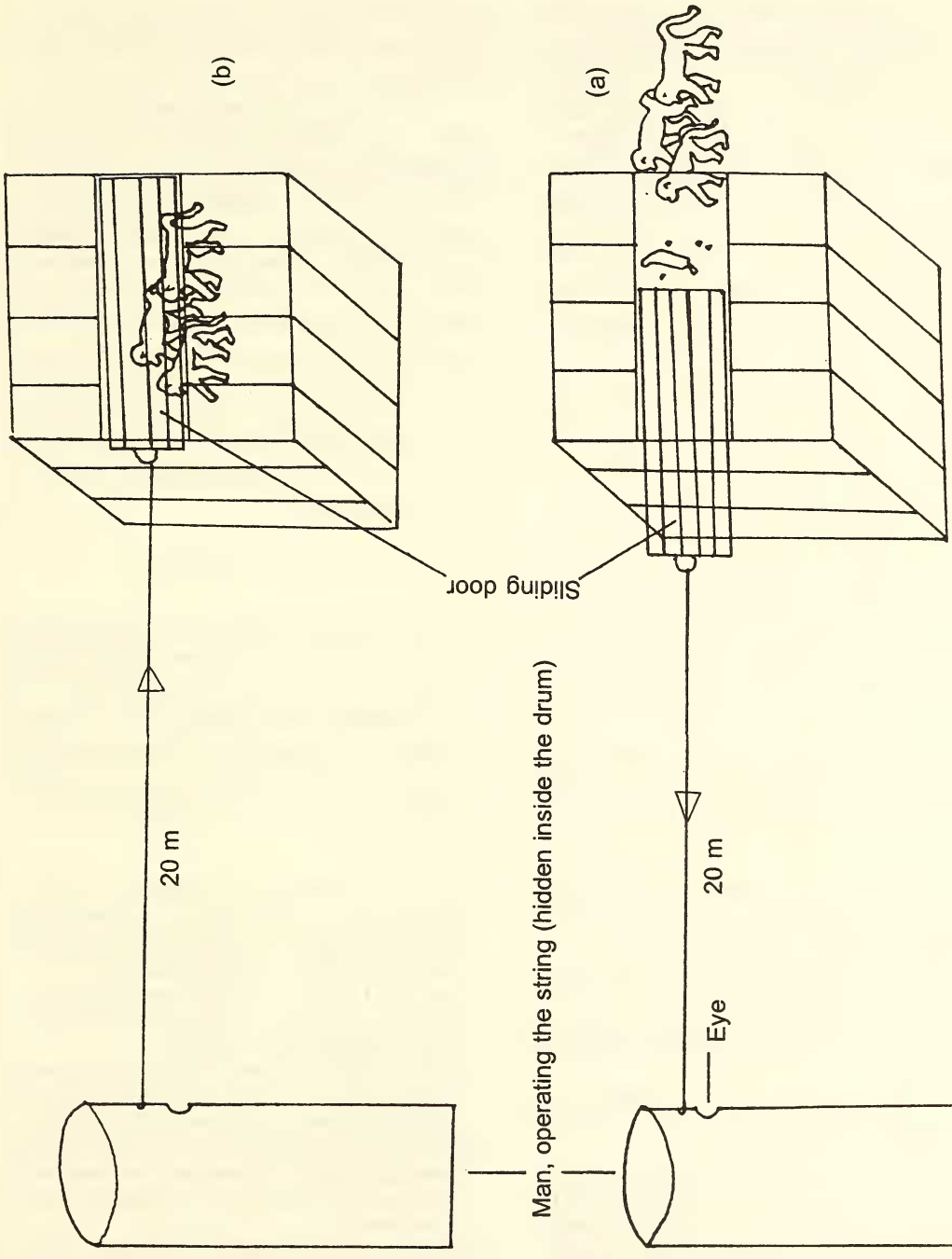


Fig. 2 : Trapping cage (a) baited with open door (b) trapped monkey

of rhesus macaques from their natural habitats to urban areas due to intensive urbanisation and expansion of agriculture. The 1978 ban on the export of primates from India and protection provided by the local people has also helped the population grow locally. In the absence of natural predators, in many places the monkey groups have increased beyond the carrying capacity of the area (Southwick and Siddiqi 1988). The GAFS had a similar problem, where the group was confined to a localised area and exposed to continuous contact with humans. Besides monkey bites and the unbearable nuisance, there may be a possible transmission of certain pathogens (e.g. *Shigella, Salmonella*) from monkey to man and *vice versa* (Shah and Southwick 1965, Tiwari and Shukla 1984).

The present translocation was a small attempt to reduce man-monkey conflict and rehabilitate the urban monkeys in their natural habitat. The post translocation visit to GAFS and Firozpur-Jhirka revealed that translocation of rhesus macaques was a successful attempt in this case.

During the last visit it was observed that translocation of monkeys has been a great relief to the residents and officials of GAFS. After a gap of 20 months, it was found that the translocated monkeys were doing well in their new locations.

The rhesus is not endangered in India, but is in a vulnerable position, as it is strongly commensal/semi-commensal and is capable of causing considerable damage to crops and other property, resulting in conflict with man. In India, 86% of the total rhesus macaque populations reside near human habitations (Southwick and Siddiqi 1994), and their conservation depends on a cordial relationship with man. The present study revealed that translocation of monkeys from GAFS has helped reduce this conflict. We believe that rhesus translocation has much to offer as it helps to design management plans for other primate species.

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*Original not seen.

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